



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,619	02/28/2002	Richard Foss	1351827-0117	4131
293	7590	06/29/2004	EXAMINER	
DOWELL & DOWELL PC SUITE 309 1215 JEFFERSON DAVIS HIGHWAY ARLINGTON, VA 22202			LE, THONG QUOC	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AX

Office Action Summary	Application No. 10/084,619	Applicant(s) FOSS ET AL.	
	Examiner Thong Q. Le	Art Unit 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/894,900.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. Amendment filed on June 30, 2003 has been entered.
2. Claims 1-7 are presented for examination.

Information Disclosure Statement

3. This office acknowledges receipt of the following items from the Applicant:
Information Disclosure Statement (IDS) filed on October 14, 2003.
4. Information disclosed and list on PTO 1449 was considered.

Priority

5. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/894,900, filed on 06/29/2001.

Claim Objections

6. Claims 2, 5 are objected to because of the following informalities:
Regarding claim 2, should be changed "external signal lines" to –signal lines external – as defined in claim1.
Regarding claim 5, should be changed "bit line" to –bitline—as defined in claim 1.
7. Appropriate correction is required.
8. Regarding claims 1-7, Examiner understands that Figures 2-3 indicated for inventions of claims 1-7. However, examiner could not find wherein the 6T memory cell. Because the half memory cell in figures 2-3 (200, 300) composites of transistors more

Art Unit: 2818

than 6 transistors (8 transistors, In Figure 3, half cell has N21-N24, P21-24). Moreover, claims including limitation "an equal number", but applicant does not defines a digit of number of transistors is used in a memory cell.

Since the Figures must be pointed out each element, which is claimed as invention in claims. Therefore, the claims have to be amended is required for more clearly for a person skill in the art can understand.

9. Claim 6 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. "silicon layer" is not define in claim 1.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

11. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Calin et al. (U.S. Patent No. 6,195,278).

Regarding claims 1-7, Calin et al. disclose (CAM) having a plurality of 6T ternary memory cells in a fabricated semiconductor material, each ternary half cell (Figure 2B, 100) comprising:

an equal number of transistors of a p-type (88a, 82a, 82b, 88b) and an n-type (86a, 92a, 92b, 86b), the p-type transistors being formed in a n-well region and the n-type transistors being formed in a p-well region of said semiconductor material, the p-wells being separated from the n-wells by at most one p+ to n+ region spacing, the transistors being interconnected to form said half ternary CAM cell and wherein the interconnections between the half cell are restricted to a first group of conductive layers and connections between said cell and signal lines external to said cell are formed in a second group of conductive layers (Figure 2B). More specifically, Calin et al. disclose external signal lines (Figure 2) including a search line, matchline, bitline and word line (88, 146, 94, WL).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Le whose telephone number is 571-272-1783. The examiner can normally be reached on 8:00am-5:00pm M-F.

Art Unit: 2818

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thong Q. Le
Primary Examiner
Art Unit 2818

THONG LE
PRIMARY EXAMINER